GOOD PRACTICE STATEMENTS–DEVELOPING GUIDELINES FOR THE SAFE AND EFFICIENT USE OF PESTICIDES

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ABSTRACT: Because pest control, vertebrate and invertebrate, is an applied science, a disciplined technology is mandatory. The National Pest Control Association, through its technical committees, is developing guidelines for the safe and efficient use of pesticides and for the execution of specific forms of pest control. These guidelines known as "Good Practice Statements" not only reveal a methodology utilizing the cooperative efforts and experiences of commercial pest control operators, representatives of the scientific community, and specialists from pertinent governmental regulatory agencies, but in themselves as physical documents add to the total expertise of everyone connected with the problems and responsibilities of conservation and control of the environment.

INTRODUCTION

The National Pest Control Association reflecting both the energies and requirements of its membership is endeavoring to keep pace with the dramatic increase in expertise required of the pest control industry.

Although operatives in our field are historically specialists in the control of pest species which endanger man and his properties, we must keep pace with the ever widening relationship between our practices and pertinent fundamentals that have been established in the fields of chemistry and the biological sciences. This alliance in technology is necessary if we are to serve the public properly. For although we have a prime mission of controlling specific populations of animal pests we must work within the envelope of the dynamics of sustaining a normal eco-system.

In addition, we must be sensitive to an ever increasing degree of excellence and safety required by an informed public.

The "Good Practice Statements" which define acceptable methods of pest control and guidelines for the effective and safe use of the current repertoire of pesticides is a reflection of our response to these valid requirements. They are also in themselves valuable documents which in many instances are the only definitive statements to date on the practical applied use of certain pesticide agents as control elements. The statements take the positive approach of describing the better way of doing the job or using a product rather than listing a series of "thou shalt nots." In this way improved pest control is fostered and the dangers of desperate and ineffective misuse are avoided. When properly formulated, these statements can be added to the compendium of basic scientific research and governmental regulations providing a more profound in-depth fund of knowledge of the entire spectrum of pest control.

HISTORICAL BACKGROUND

For many years the National Pest Control Association has disseminated fundamental technical information on the biology of specific pest species and the chemical nature, biologic effects, and toxicological properties of the pesticides used in their control. The sources of information have been varied. The input has included work from established researchers in the respective fields, technical information from manufacturers, definitions and interpretations from government agencies, reports from special research projects funded in part or in whole by our own Association, and field data collected by members within our own industry.

The "Good Practice Statement" (GPS) evolves basically from the Code of Ethics of the Association one element of which is "to render pest control services safely and efficiently in keeping with good practices."

In 1964 the Association espoused a stand on the selective use of pesticides reflecting the axiom that the least hazardous agent that will provide satisfactory control should govern the choice of pesticide. This was further clarified and defined in early 1966 as the "NPCA Policy on Safe Use of Pesticides." Although our first Good Practice Statement,

dealing with fumigation, was issued in 1963, it was in the period from 1965 through 1967 that the mechanics and organizational structure and responsibilities for authorship, review, and formal adoption of Good Practice Statements were formalized. Consequently, the final phase in which the present methods of compilation can be truly identified commenced in 1968 and have continued without interruption to the present date.

DEVELOPMENT

To appreciate the intrinsic relevance of the Good Practice Statements it would be of benefit to briefly review the manner in which each statement is developed.

The Research Council of the NPCA assigned the initial responsibility for the statements to the particular appropriate Technical Committee. Of particular interest to vertebrate pest control specialists are the NPCA Bird Management Committee and the Rodent Control Committee.

Each committee has three divisions:

A - Members

A selected group of individual members with long experience in the field of study and who are involved with all aspects of the committee's work.

B - Member Correspondents

A large group of Association members who assist in tabulating data, answering questionnaires, submitting comments and assisting in field tests etc.

C - Consulting Correspondents

A group of specialists from the academic community and pertinent governmental research and regulatory agencies who contribute an additional expertise.

The procedure for the development of the statements are outlined in the following steps:

1. Research Council assigns subjects to Committees.
2. Committee assigns initial draft responsibility to individual Member.
3. Member researches literature, consults with co-workers and compiles a draft. Draft submitted to other Members, revised and edited resulting in an "Initial Draft."
4. Initial Draft circulated to Member Correspondents and Consulting Correspondents for detailed commentary.
5. Committee Members convene to evaluate all comments. Several Consulting Correspondents present to assist in process. A Final Draft representing unanimous approval of all Members is evolved. It is submitted to the Research Council.
6. Research Council meets and reviews Final Draft. It may refer the statement for review by experts or by another committee. If the Council accepts it, the Final Draft is distributed for the entire Association membership as well as others receiving NPCA mailings.
7. Membership at large has at least thirty days in which to submit comments on the Final Draft.
8. All significant comments from membership must be satisfied by the originating committee, reviewed and accepted by the Research Council, and submitted in completed edited form for final action by the Board of Directors.

9. Board of Directors Adopts Final Draft as an official Good Practice Statement. It is then published as a Technical Release.

REVIEW PROCEDURE

Because technology and legal requirements are not static factors the GPS's are subjected to continuous review.

Each year at the Annual Meeting of the NPCA each technical research committee holds an open session for the general membership which provides an opportunity to discuss the need for any modifications in the existing GPS's.

In addition the Committee Members, Association Leadership, and the technical staff of the Association endeavor throughout the course of the year to be sensitive to any need for possible additions or deletions from the guidelines.

The details of the review procedure are essentially the same as is followed in the original formulation of the Good Practice Statement.

EXAMPLES

I have selected two Good Practice Statements as examples of guidelines which have been developed for the use of rodenticides. They are of illustrative interest because one centers upon the use of a standard class of rodenticides, the Anticoagulants, used commonly in preventive maintenance and long term programs, while the other, Zinc Phosphide, is normally confined as a corrective, short term agent.

Both statements were developed by the NPCA Rodent Control Committee and adopted by the Board of Directors, October 18, 1970, and subsequently released for the guidance of all pest control operators, the public and official agencies. They are attached as appendices.

DISCUSSION

From the examples, it may be seen that the Good Practice Statements have been directed towards pest control operators. They are general guidelines to the extent that local regulations and individual control program requirements will further define or limit the application of these statements.

Their basic thrust is clarified in a preface statement which was adopted by the Board of Directors of the Association in 1969:

"Good Practice Statements of the National Pest Control Association describe activities of a prudent, well informed pest control operator. They are intended to guide:

> The pest control industry as to what members of NPCA consider generally acceptable as a safe and effective practice;
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> The public as to the service they may reasonably expect from members;
>
> The Association if it asks a member to justify departure from generally accepted practice when such departure endangers persons, property or the industry image."

The Good Practice Statements have been well received by the membership of the Association. For our members the statements serve as educational, advisory documents; they are not intended to be used as the basis of policing action. The latter is not consistent with Trade association philosophy. Commercial organizations having an interest in a particular procedure or process have purchased and distributed thousands of copies of certain GPS's. In addition, a number of local and state regulatory agencies and individual governmental officials have accepted them for reference material. During this era of reevaluating all elements of pest control, it is undoubtedly of value for anyone associated with the regulation of pest control practices to know that if a particular agent or method of pest control is to be judged or permitted in any jurisdiction, what precisely are the guidelines which our industry has already set for the operators in the field. In some cases Good Practice Statements have been accepted as guides by governmental regulatory agencies.

In the field of vertebrate pest control, Good Practice Statements have been adopted by the Association as of December, 1971, on the following subjects:

Rodent Control

1) Use of anticoagulant rodenticides.
2) Use of the rodenticide Antu.
3) Use of the rodenticide Arsenic Trioxide.
4) Use of the pesticide DDT for House Mouse Control.
5) Use of the rodenticide Phosphorus.
6) Use of the rodenticide Red Squill.
7) Use of the rodenticide Sodium Fluoroacetate.
8) Use of the rodenticide Zinc Phosphide.
9) Use of the rodenticide Strychnine.
10) Use of the rodenticide Thallium Sulfate.
11) Use of Calcium Cyanide as a burrow fumigant.
12) Use of traps for commensal rodent control.

Bird Control

1) Good Practices to be observed in all types of bird management programs.
2) Use of Rid-A-Bird Perches containing Endrin or Fenthion for the management of pest birds.

Other Good Practice Statements on subjects relating to invertebrate pest control have also been developed and adopted. A total of 26 Good Practice Statements are now available not only to the membership of the Association, but to all interested parties. In addition, the Association has compiled an "educational package" including a Serviceman's Manual developed by the Association and a complete set of the Good Practice Statements.

CONCLUSION

Although the Good Practice Statements as developed by the NPCA were designed to assist pest control operators in the execution of their programs, their application is not necessarily restricted to the members of our industry. They are an attempt to extract the most qualified practical methodology of carrying out pest control programs within the framework and disciplines of our present knowledge as to the behavior of animal species, the effect of the chemical agents on all forms of life, and the present rules and regulations as espoused by the appropriate government regulations.

It is self-evident that fundamental guidelines on pest control procedures should be part of our fund of knowledge. In this respect the Good Practice Statements in their proper context should add to the total expertise of animal and environmental control.

Their method of formulation and the fact of their existence should also serve further notice. The commercial pest control industry is aware that it possesses a responsibility to join with the scientific community and the government in assuring that the tools and technics of pest control will not only satisfy their prime objective of protecting man and his possessions from injury by pests, but will do so in a manner that does not inadvertently injure the environment or the public we serve.

Appendix I

Reprinted with permission for
5th Vertebrate Pest Control
Conf., Fresno, Cal. 1972

Technical Release NUMBER 2-71

National Pest Control Association INC

A NON-PROFIT MEMBERSHIP ASSOCIATION

THE BUETTNER BUILDING
250 WEST JERSEY STREET
ELIZABETH, N. J. 07207
201 354 3738

DATE 1/22/71

GOOD PRACTICE IN THE USE OF THE RODENTICIDE ZINC PHOSPHIDE BY THE PEST CONTROL OPERATOR*

Zinc Phosphide is a toxic rodenticide, which, when properly utilized is effective against rats and mice. It is a dark gray powder that is relatively insoluble in water and alcohol. In the presence of moisture and/or dilute acids, it releases phosphine gas, which is very toxic and accounts for the garlic like odor of the compound. Zinc Phosphide is available up to a 97% concentration and as a finished bait. It is registered for the control of rats and mice, both indoors and outdoors, and is usually utilized as a 1% by weight formulation in various bait materials. This agent may be stable for long periods of time under certain conditions. The properties and use of Zinc Phosphide are discussed in Technical Releases 17-67 and 14-68.

Because of its toxicity to all forms of animal life, the following methods and precautions should be adhered to in the use of Zinc Phosphide:

1. Zinc Phosphide should not be used when less hazardous materials can be expected to provide adequate control in a given situation. This need shall be determined after a careful inspection and evaluation has been made of the property to be treated.

2. PCO's using Zinc Phosphide should be trained and experienced in rodent control and familiar with the safe handling of the agent.

3. All containers used for the storage or transportation of this rodenticide shall bear an appropriate USDA-registered label or a label recommended by NPCA (See Technical Release 15-66).

4. This rodenticide is not recommended as a routine maintenance rodenticide, but rather as a short term, single dose, corrective agent.

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* This Statement was developed by the NPCA Rodent Control Committee, was adopted by the Board of Directors, October 18, 1970, and is released for the guidance of all pest control operators, the public and official agencies.

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5. Zinc Phosphide should not be used in a manner in which it is readily accessible to children, poultry, pets or domesticated animals. It may be necessary to utilize safety rodent bait stations to accomplish this in some situations.

6. Zinc Phosphide shall never be placed in any manner in which contamination of food could occur.

7. Zinc Phosphide should never be utilized on a readily recognizable food material in a form attractive to humans.

8. Zinc Phosphide can be dusted onto wet baits such as meats or cubed fresh fruits and vegetables as long as they are made unrecognizable as food.

9. When applied to dry baits such as grains, refer to Technical Release 17-67.

10, The final bait form should be formulated when needed, and personnel should be instructed to wear gloves to prevent skin contact, wash their hands after any handling operation, and not to smoke or eat during the performance of any of these activities.

11. When preparing Zinc Phosphide baits, operations should occur outdoors or in a room with positive ventilation. A respirator should be worn when mixing baits to prevent inhalation of the powder. If very large batches are being produced it is necessary to wear a gas mask approved for phosphine.

12. It is desirable to pick up and destroy the dead rodents for good sanitation, good public relations, and reduction of the already low secondary poisoning hazard.

13. The specific job records of the PCO should report the date that this rodenticide is used, and the particular bait form in the event of the necessity of future identification.

Appendix II

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5th Vertebrate Pest Control
Conf., Fresno, Cal. 1972

Technical Release

NUMBER 22-70

National Pest Control Association, Inc.

A NON-PROFIT MEMBERSHIP ASSOCIATION

THE BUETTNER BUILDING
250 WEST JERSEY STREET
ELIZABETH N. J. 07207
201 354 3718

DATE 12/16/70

GOOD PRACTICE IN THE USE OF ANTICOAGULANT RODENTICIDES BY THE PEST CONTROL OPERATOR*

The anticoagulant rodenticides, which include Warfarin, Fumarin Pival, Diphacin and PMP, act by disrupting the normal blood clotting mechanisms. Although the anticoagulants are considered relatively safe, these rodenticides must still be used in such a manner as to protect the public and domestic animals. They are available both as dry powders, which are to be mixed with solid baits, or as salts, which are to be mixed with water to produce liquid baits. The items listed below are considered to be good practice for using anticoagulant rodenticides for control of commensal rodents by pest control operators.

1. PCO's using anticoagulant rodenticides should have been trained in rodent control work.

2. Anticoagulants may be used in homes and business establishments.

3. The recommendations of the manufacturers for mixing and the safe handling of the baits should be followed by all pest control operators. Concentrations recommended on USDA registered labels should be adhered to for maximum effectiveness and to prevent increasing the hazard or reducing acceptance by the rodents.

4. All containers used for storing or transporting anticoagulants shall bear an appropriate USDA registered label or a label as recommended by NPCA (See Technical Release 15-66).

5. Present all poisoned baits as conveniently and attractively to rodents as is consistent with safety, and in such a manner so as to preclude contamination

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of food or food stuffs. Exposure within a building should be at floor level.

6. Where anticoagulant baits are used indoors in areas where the public, children, and domestic animals are present, the bait should be kept in a covered rodent bait station. A warning label must be affixed to the container. Open bait trays may be used indoors if placed in areas not readily accessible to the public, children, or domestic animals.

7. When baiting outdoors, place all baits into burrows, tunnels, deep into holes, or in covered rodent bait stations. Grain baits coated with anticoagulants and embedded in parafin may be used in wet conditions.

8. Vary the type of baits from dry baits to liquid according to the acceptability and conditions.

9. A sufficient amount of anticoagulant food or water bait should be set out at one station where rodents are accustomed to feeding. Assure an uninterrupted supply of bait for a period of not less than 15 days and continue baiting until all signs of feeding have stopped.

10. All dry baits should be inspected at least once per month and replaced with fresh baits if insect infested, moldy, or otherwise unattractive to rodents. Baits should be replenished as necessary to ensure an adequate food supply for rodents.

11. Insect infestation of cereal type rodent baits containing anticoagulants should be prevented so that bait acceptability remains good and the treated premises do not become insect infested. The probability of insect infestation can be minimized by fumigating the bait, storing it in an insect-tight container prior to use, and removing and destroying exposed baits at least once a month.

12. Mixed cereal or solid baits if stored for a considerable length of time should be placed in water-proof containers in a cool, dry place.

13. Upon completion of the program, all bait boxes, containers, and/or throw bags if accessible to the public, should be picked up for disposal.

14. At least one anticoagulant is registered for use as a tracking powder. Outdoors, the powder should be placed into burrows, protected runs, or along foundations. Indoors, the the powder should only be placed in wall voids or similar spaces.

15. It is desirable to pick up and destroy the dead rodents for good sanitation, good public relations, and reduction of the already low secondary poisoning hazard.